Interim Considerations for Respirators and Facemasks for Public Safety during a Pandemic

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I. Joint document prepared by the Indiana Department of Homeland Security and the Indiana Department of Labor.

II. Information Cut Off Date Time Group: May 4, 2009 1200 Hours EST

III. Scope

This document is created to provide emergency management agencies and employees with considerations pertaining to the administration, wear and use of facemasks and respirators during a pandemic.

IV. Key Findings

a. Employers shall provide respirators to employees when it is necessary to protect the health of the employee in accordance with 29 CFR 1910.134, Respiratory Protection.

b. Employers may be responsible for the establishment and maintenance of a respiratory program in accordance with 29 CFR 1910.134(c).

c. A N95 respirator may be adequate for individuals that are in close contact with an infectious person according to CDC guidance.

d. If respirator use is considered mandatory by the employer, fit testing is required. In that case, a qualitative fit-test may be sufficient for the purposes of pandemic protection in conjunction with a N95 mask.

e. Use of personal protective equipment(PPE), including gloves, gowns, facemasks and/or respirators should be considered for use by individuals for whom close contact with an infectious person is unavoidable.

V. Overview

The Novel H1N1 Influenza is a respiratory disease. In late March and early April 2009, cases of human infection with H1N1 viruses were first reported in Southern California and near San Antonio, Texas. Other U.S. states have confirmed cases (including Indiana on April 28, 2009) of infection in humans and cases have been reported internationally as well. Spread of the H1N1 virus is thought to be happening in the same way that seasonal flu spreads. Flu viruses are spread mainly from person to person through coughing or sneezing of people with influenza. Sometimes people may become infected by touching something with flu viruses on it and then touching their mouth or nose. Infected people may be able to infect others beginning one day before symptoms develop and up to seven or more days after becoming sick. The virus can live two or more hours on surfaces like tables, doorknobs, and desks. Anti-viral medication can make the illness milder and works best if started within two days of the onset of symptoms.

VI. Implications for Indiana Responders

Emergency responders may not have the luxury of distancing themselves from individuals who exhibit flu like symptoms and therefore, should consider taking precautionary measures to minimize contracting the H1N1 virus.

VII. Novel H1N1 Influenza Indicators and Assessment

The symptoms of H1N1 Influenza A in people are similar to the signs and symptoms of regular human seasonal influenza and include fever, lethargy, lack of appetite and coughing. Some people also have reported runny nose, sore throat, nausea, vomiting, and diarrhea. Indiana responders should consider assessing all patients as follows:

- Step 1: Address scene safety:
  - If the Public Safety Answering Point (PSAP) advises potential for fever and other respiratory illness symptoms on scene, responders should don PPE for suspected cases of Novel H1N1 Influenza infection prior to entering scene.
  - If PSAP has not identified individuals with symptoms fever and other respiratory illness symptoms on scene, responders should stay more than 6 feet away from patient and bystanders. Responders should exercise appropriate routine respiratory droplet precautions while assessing all patients for suspected cases of Novel H1N1 Influenza infection.
- Step 2: Assess all patients for symptoms of acute febrile respiratory illness (fever plus one or more of the following: nasal congestion/ runny nose, sore throat, or cough).
  - If no symptoms of fever and other respiratory illness symptoms, proceed routinely.
  - If symptoms of fever and other respiratory illness symptoms are present, don appropriate PPE for suspected case of Novel H1N1 Influenza infection if not already on.

VIII. Facemasks vs. Respirators

Facemasks:

Facemasks are used as a physical barrier to protect employees from hazards such as splashes of large droplets of blood or body fluids. Facemasks also prevent contamination by trapping large particles of body fluids that may contain bacteria or viruses when they are expelled by the wearer (for example, through coughing or sneezing). Facemasks are cleared by the FDA and are legally marketed in the United States for use in disease prevention. FDA-cleared masks have been tested for their ability to resist blood and body fluids. Facemasks are not designed or certified to prevent the inhalation of small airborne contaminants. The term “facemask” is used in this guidance to refer to Food and Drug Administration (FDA) - cleared surgical, medical, procedure, dental, laser and isolation masks.

Respirators:

Respirators are used to reduce an employee's exposure to airborne contaminants. Most respirators are designed to fit the face and to provide a tight seal between the respirator's edge and the face. A proper seal between the user's face and the respirator forces inhaled air to be pulled through the respirator's filter material and not through gaps in the seal between the face and respirator. A “fit test” is necessary for most models of respirators because it is the only way to know for certain whether a proper seal can be established between the respirator and the user's face. The advantages and disadvantages of respirators as compared to facemasks are described in Table 1. In some workplaces, respirators will be an important component of protecting employees and allowing them to perform essential work, particularly work that may put them at greater risk for exposure to pandemic influenza. When the use of a respirator is necessary to protect employees from an occupational hazard, the respirator must be used in the context of a comprehensive respiratory protection program established by the employer (see OSHA standard 29 CFR 1910.134, or www.osha.gov/SLTC/respiratoryprotection/index.html).

For more information and guidance on the differences between facemasks and respirators, please refer to the Facemasks vs. Respirators Web links in section XI of this document.

IX. Options for Consideration

1. Whenever possible, rather than relying on the use of facemasks or respirators, close contact with people who might be ill and being in crowded settings should be avoided.

2. Facemasks[1] should be considered for use by individuals who enter crowded settings. The facemask is used to protect the wearers nose and mouth from other people's coughs and to reduce the wearers' likelihood of coughing on others. The time spent in crowded settings should be as short as possible.

3. Respirators[2] should be considered for use by individuals for whom close contact with an infectious person is unavoidable. This can include selected individuals who must care for a sick person (e.g., family member with a respiratory infection) at home.

4. Prior to voluntary respirator use, an employee should read and heed all instructions provided by the manufacturer on use, maintenance, cleaning and care and warnings regarding the respirators limitations. Employees who are required to wear respirators must receive comprehensive, understandable and effective training as defined in 29 CFR 1910.134(k).

5. If respirator use is required by the employer, each employee shall be fit-tested prior to use. Fit-testing should be done in accordance with accepted procedures (29 CFR 1910.134, Appendix A). If respirator use is voluntary, no fit-testing is required.

6. An employee does not have to get fit-tested each time a mask is changed as long as the employee is using the same make, model, and size of mask that was used in the fit test. The fit test is valid for one year.

7. A quantitative fit test is destructive to a N95 respirator and requires special test equipment. A qualitative test is not destructive to a N95 respirator; however, it is recommended that each mask used in a fit test should be discarded after that test.

8. Employees should discontinue the use of a N95 respirator if the respirator becomes contaminated (i.e. a sick person sneezes or coughs on it).

1 Unless otherwise specified, the term "facemasks" refers to disposable masks cleared by the U.S. Food and Drug Administration (FDA) for use as medical devices. This includes facemasks labeled as surgical, dental, medical procedure, isolation, or laser masks. Such facemasks have several designs. One type is affixed to the head with two ties, conforms to the face with the aid of a flexible adjustment for the nose bridge, and may be flat/pleated or duck-billed in shape. Another type of facemask is pre-molded, adheres to the head with a single elastic band, and has a flexible adjustment for the nose bridge. A third type is flat/pleated and affixes to the head with ear loops. Facemasks cleared by the FDA for use as medical devices have been determined to have specific levels of protection from penetration of blood and body fluids.

2 Unless otherwise specified, "respirator" refers to a N95 or higher filtering facepiece respirator certified by the U.S. National Institute for Occupational Safety and Health (NIOSH). Use of a respirator should be done in conjunction with a formal respiratory protection program that is managed in accordance with OSHA 29 CFR 1910.134.

X. Reporting

For comments or questions related to the content or dissemination of this document please contact the Indiana Department of Homeland Security at 1-800-669-7362 or by email at eocmanager@dhs.in.gov.

For questions pertaining to OSHA rules and regulations pertaining to respirator use and other worker safety and health issues, contact the Indiana Department of Labor at 317-232-2693.

XI. Sources

World Health Organization
http://www.who.int

Center for Disease Control
http://www.cdc.gov/

Department of Health and Human Services
http://www.pandemicflu.gov

US Department of Labor Occupational Safety and Health Administration (OSHA)
http://www.osha.gov/Publications/OSHA_pandemic_health.pdf

http://www.osha.gov/Publications/influenza_pandemic.html

Indiana State Department of Health
http://www.in.gov/isdh/

Facemasks vs. Respirators

http://www.fda.gov/cdrh/ppe/masksrespirators.html

http://www.pandemicflu.gov/faq/pandemicinfluenza/1973.html

http://www.pandemicflu.gov/faq/pandemicinfluenza/mask.html

http://www.pandemicflu.gov/vaccine/mask.html

http://www.osha.gov/Publications/influenza_pandemic.html (p.17-23)

http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=12716

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